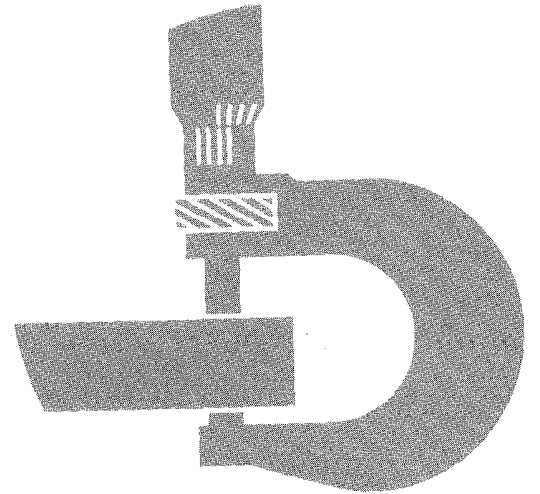


**John Deere  
JD693-B  
Feller-Buncher**



**TECHNICAL MANUAL**

**TM-1170**

Litho in U.S.A.

## SECTION AND GROUP CONTENTS OF THIS MANUAL

### SECTION I - GENERAL INFORMATION

- Group I - Contents, Index and Page List
- Group II - Introduction and Safety Information
- Group III - General Specifications
- Group IV - Predelivery, Delivery and After-Sales Service
- Group V - Lubrication

### SECTION 1 - TRACKS

- Group 0130 - Tracks Systems
- Group 0199 - Specifications and Special Tools

### SECTION 2 - AXLES AND SUSPENSION SYSTEMS

- Group 0201 - Drive Axle Housing and Support
- Group 0260 - Hydraulic System
- Group 0299 - Specifications and Special Tools

### SECTION 4 - ENGINE

- Group 0400 - Engine Removal and Installation
- Group 0401 - Crankshaft and Main Bearings
- Group 0402 - Camshaft and Valve Actuating Means
- Group 0403 - Connecting Rods and Pistons
- Group 0404 - Cylinder Block
- Group 0407 - Oiling System
- Group 0408 - Ventilating System
- Group 0409 - Cylinder Head and Valves
- Group 0410 - Exhaust Manifold
- Group 0413 - Fuel Injection System
- Group 0414 - Intake Manifold
- Group 0416 - Turbocharger
- Group 0417 - Water Pump
- Group 0418 - Thermostats, Housings and Water Piping
- Group 0419 - Oil Cooler
- Group 0420 - Fuel Filter
- Group 0421 - Fuel Transfer Pump
- Group 0422 - Starting Motor and Fastenings
- Group 0433 - Flywheel, Housing and Fastenings
- Group 0499 - Specifications and Special Tools

### SECTION 5 - ENGINE AUXILIARY SYSTEM

- Group 0505 - Cold Weather Starting Aids
- Group 0510 - Cooling Systems
- Group 0515 - Speed Controls
- Group 0520 - Intake System
- Group 0530 - External Exhaust Systems
- Group 0540 - Mounting Frame
- Group 0560 - External Fuel Supply Systems
- Group 0599 - Specifications and Special Tools

### SECTION 16 - ELECTRICAL SYSTEMS

- Group 1671 - Batteries, Support and Cables
- Group 1672 - Alternator, Regulator and Charging System Wiring
- Group 1673 - Lighting System
- Group 1674 - Wiring Harness and Switches
- Group 1675 - Systems Controls
- Group 1676 - Instruments and Indicators
- Group 1699 - Specifications and Special Tools

### SECTION 17 - FRAME, CHASSIS, OR SUPPORTING STRUCTURE

- Group 1740 - Frame Installation
- Group 1746 - Frame Bottom Guards
- Group 1749 - Chassis Weights

### SECTION 18 - OPERATOR'S STATION

- Group 1810 - Operator Enclosure
- Group 1830 - Heating and Air Conditioning
- Group 1899 - Specifications and Special Tools

### SECTION 19 - SHEET METAL AND STYLING

- Group 1910 - Hood or Engine Enclosure
- Group 1913 - Miscellaneous Shields
- Group 1921 - Grille and Grille Housing
- Group 1927 - Fenders

### SECTION 20 - SAFETY, CONVENIENCE AND MISCELLANEOUS

- Group 2003 - Fire Extinguisher

### SECTION 33 - BACKHOE AND EXCAVATOR

- Group 3315 - Controls Linkage
- Group 3340 - Frames
- Group 3360 - Hydraulic System
- Group 3399 - Specifications and Special Tools

### SECTION 39 - SHEAR

- Group 3901 - Blades and Cutting Elements
- Group 3903 - Tongue and Forks
- Group 3915 - Controls Linkage
- Group 3940 - Frame
- Group 3960 - Hydraulic System
- Group 3999 - Specifications and Special Tools

### SECTION 43 - SWING, ROTATION OR PIVOTING SYSTEM

- Group 4350 - Mechanical Drive Elements
- Group 4360 - Hydraulic System
- Group 4399 - Specifications and Special Tools

---

**SECTION AND GROUP CONTENTS OF THIS MANUAL (Continued)**


**SECTION 90 - SYSTEM TESTING**

- Group 9005 - General Information - Seven Basic  
              Steps of Diagnosing and Testing
- Group 9010 - Engine
- Group 9015 - Electrical System
- Group 9020 - Power Train
- Group 9025 - Hydraulic System
- Group 9030 - Miscellaneous Components
- Group 9031 - Heating and Air Conditioning
- Group 9035 - Specifications and Special Tools

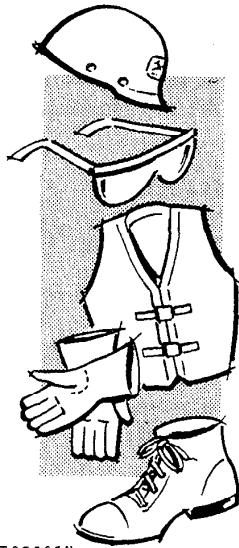
## MAINTENANCE WITHOUT ACCIDENT WORK SAFELY



T27999N

 This safety alert symbol identifies important safety messages in this manual and on the feller-buncher. When you see this symbol, be alert to the possibility of personal injury and carefully read the message that follows.

**EVERY EMPLOYER HAS A  
SAFETY PROGRAM. KNOW  
WHAT IT IS!**

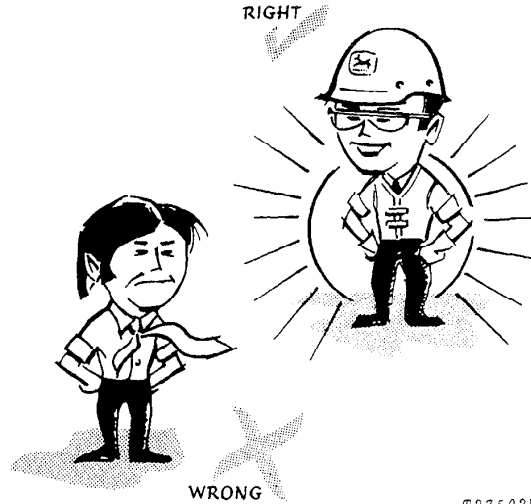


T27501N

See your shop supervisor for specific instructions on a job, and the safety equipment required.

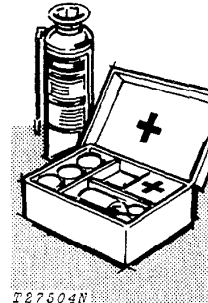
For instance, you may need: Hard hat, safety shoes, safety goggles, heavy gloves, reflector vest, ear protectors, respirator.

Litho in U.S.A.



### BE ALERT!

Plan ahead. Work safely. Know how to use a first-aid kit and a fire extinguisher. Know where to get aid.



T27504N

### Maintenance Area

Make sure the maintenance area has enough ventilation.

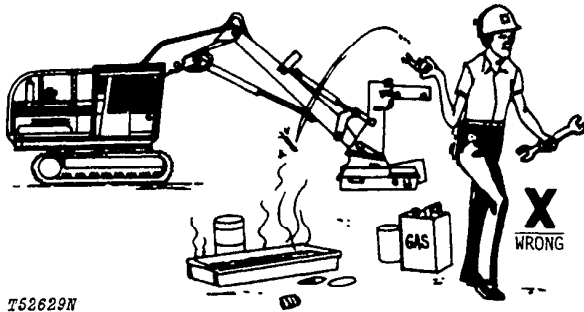
Keep the maintenance area CLEAN AND DRY. Oily and wet floors are slippery. Greasy rags are a fire hazard. Wet spots are dangerous when working with electrical equipment.

Keep starting aids in a cool, well-ventilated place, out of reach of unauthorized personnel.

## MAINTENANCE WITHOUT ACCIDENT

### AVOID FIRE HAZARDS -

#### Fuel Is Dangerous!



Do not smoke while putting fuel in the fuel tank.  
Do not smoke while working with material that will start on fire easily.

Stop the engine before filling the fuel tank.

If the engine is hot, use care when putting fuel in the fuel tank.

Do not use gasoline or diesel fuel for cleaning parts.  
Use solvents that will not start on fire.

#### Battery Gas Is Highly Flammable!

When charging batteries, be sure there is enough ventilation.



Do not check the battery charge by putting metal objects across the posts.

Do not let sparks or open flame near batteries.

Do not smoke near battery.

#### Flame Is Not a Flashlight!

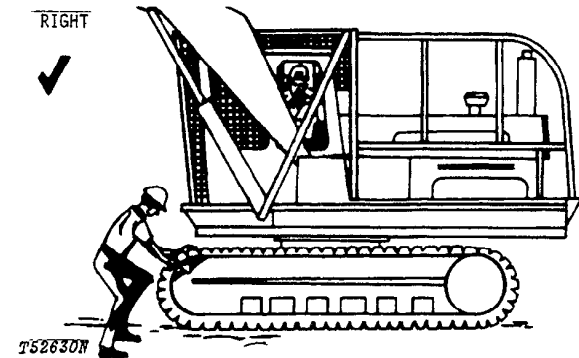
**NEVER USE OPEN FLAME AROUND THE MACHINE.**

**KNOW WHERE FIRE EXTINGUISHERS ARE KEPT!**

### UNDER ALL MAINTENANCE CONDITIONS -

Do not work on the equipment unless you are approved to do so. Then be sure you know the safe and correct procedure.

Never work on equipment while it is being operated.



When the engine is running, avoid working on equipment.

If you must work on the machine with the engine running, ALWAYS USE TWO service technicians. One must be at the controls. The other must be within sight of the operator.

#### KEEP HANDS AWAY FROM MOVING PARTS.

Put a support under all raised equipment.

Never work under a raised shear.

Lower the shear to the ground.

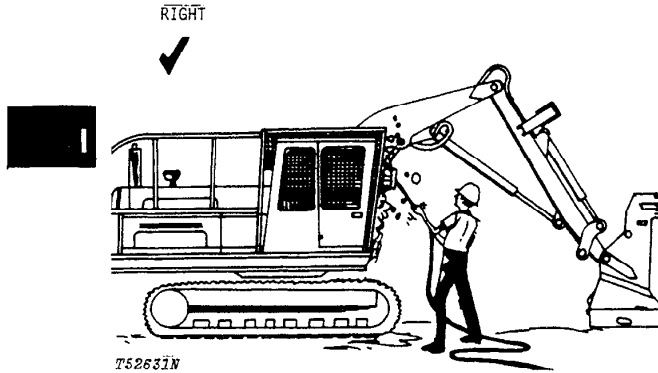
If the machine is on a slope, use blocks to hold it in place.

Do not lift heavy parts by yourself. Use hoisting equipment for this.

#### TAKE CARE! WATCH OUT FOR OTHER PEOPLE IN THE AREA.

When drilling, grinding, or hammering metal, wear safety glasses.

### BE CAREFUL DURING SERVICE AND REPAIR



Keep ALL equipment free of dirt and oil.

Clean oil, grease, mud, ice or snow from the operator's station, steps and hand rails.

When getting the engine ready for storage, remember that inhibitor changes easily into gas and is dangerous. After adding the inhibitor, seal and tape openings. When you are not using the inhibitor, keep the can tightly closed.

Do not remove the radiator cap unless you can hold your hand on the radiator tank. First, loosen the cap slowly to the stop. Then release all pressure in the cooling system before removing the cap.

Check the exhaust system regularly for leaks.

Release hydraulic pressure before working on the hydraulic system. Stop the engine. Lower the shear to the ground. Move the control levers until the boom and shear do not move.

When checking hydraulic pressure, be sure to use the correct test gauge.

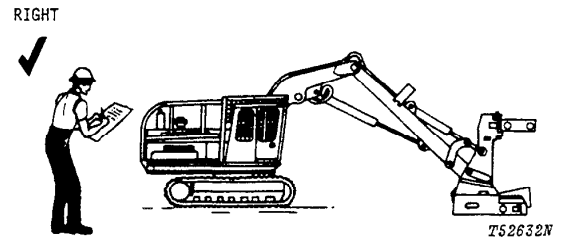
Before working on the fuel system, close the fuel shutoff valve.

Before working on the electrical system, or making a major overhaul, disconnect the batteries.

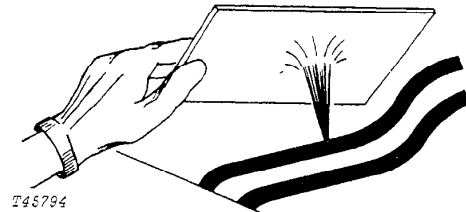
Before working on the hydraulic system release hydraulic pressure. Remove the hydraulic reservoir filler cap slowly. Open the diffuser vent.

### KNOW EQUIPMENT IS READY!

All parts must be in good condition and fastened in place.



Carefully inspect all systems for leaks.



Use a piece of cardboard or wood, rather than hands, to search for suspected leaks.

Escaping fluid under pressure can penetrate the skin.

If injured by escaping fluid, see a doctor at once.

## Group III

# GENERAL SPECIFICATIONS

(Specifications and design subject to change without notice. Wherever applicable, specifications are in accordance with SAE Standards. Except where otherwise noted, these specifications are based on a unit equipped with Rome Tree Shear and standard equipment.)

<b>Power</b> (at 2400 engine rpm):	<b>SAE</b>	<b>DIN</b>
Gross .....	141 hp (105.1 kW)	
Net .....	131 hp (97.7 kW)	133 PS

Net engine flywheel power is for an engine equipped with fan, air cleaner, water pump, lubricating oil pump, fuel pump, alternator, and muffler. The gross engine power is without fan. Flywheel power ratings are under SAE standard conditions of 500 ft. (152 m) altitude and 85°F (29°C) temperature, and DIN 6270 conditions (non-corrected). No derating is required up to 10,000 ft. (3 000 m) altitude.

**Engine:** John Deere turbocharged diesel, vertical 6-cylinder, valve-in-head, 4-stroke cycle.

Bore and stroke ..... 4.25x4.75 in. (108x121 mm)  
 Piston displacement ..... 404 cu. in. (6 620 cm<sup>3</sup>)  
 Compression ratio ..... 15.5 to 1  
 Maximum torque

    @ 1600 rpm ..... 375 lb-ft (508 Nm) (51.8 kg-m)  
 NACC or AMA (U.S. Tax) horsepower ..... 43.3  
 Lubrication ..... Pressure system w/full-flow filter  
 Cooling . Pressurized w/thermostat and fixed bypass  
 Fan ..... Suction  
 Air cleaner w/restriction indicator ..... Dry  
 Electrical system ..... 12 volt w/alternator  
 Batteries (2) 12 volt . Reserve capacity: 420 minutes

**Hydraulic System:**

Two open-center pumps mounted in tandem are coupled directly to the flywheel.  
 Total flow is 84 gpm (5.3 L/s) at rated engine rpm.  
 System operating pressure is 2500 psi (17 238 kPa) (175.7 kg/cm<sup>2</sup>).

Relief valves:

Boom (2) .....	3000 psi (20 685 kPa)	(210.9 kg/cm <sup>2</sup> )
		3750 psi (25 856 kPa)
		(263.6 kg/cm <sup>2</sup> )
Crowd (2) .....	3000 psi (20 685 kPa)	(210.9 kg/cm <sup>2</sup> )
Tilt (2) .....	3000 psi (20 685 kPa)	(210.9 kg/cm <sup>2</sup> )
Clamps (2) .....	3000 psi (20 685 kPa)	(210.9 kg/cm <sup>2</sup> )
Shear (1) .....	3000 psi (20 685 kPa)	(210.9 kg/cm <sup>2</sup> )

Oil filtration ..... Three 10 micron filter elements in return lines

Cylinders	Bore	Rod Diameter
Boom (2) .....	5 in. (127 mm)	2.75 in. (70 mm)
Crowd and tilt .....	5.5 in. (140 mm)	3.25 in. (83 mm)

All cylinders have phenolic wear rings. Boom and crowd cylinders have a built-in hydraulic cushion at each end of the stroke. Tilt cylinder has hydraulic cushion at rod end. Full-frontal hydraulic oil cooler is in front of engine coolant radiator.

**Swing Mechanism:**

Swing ..... 360-degree, continuous  
 Turntable bearing ..... Single row, ball.  
 Case-hardened ring and pinion gears run in lubricant.

**Undercarriage:**

Propel motors (one for each track) ... High-torque 2-speed hydraulic motors with planetary drives. Wet multiple-disk brakes automatically release while propelling, and apply when stationary. Independent drive to each track permits counter-rotation.

Undercarriage, car body, and track frame ... Each track frame is a formed, reinforced U-channel. Track frames are joined by reinforced boxed car body with swing bearing mount.

A full-length combination chain guide and track support keep the rollers on the track chain and help prevent track shoe bending. Track motors and plumbing are completely enclosed to prevent damage.

**Track Rollers and Idlers:**

9 rollers and 1 idler per track. All rollers and idlers have metal-faced seals. Idlers have heavy-duty spring recoil mechanisms. Through-hardened steel slides support and guide upper track.

<b>Track Shoes:</b>		<b>Ground Contact</b>	<b>Ground Pressure</b>
<b>Width</b>	<b>Shoes</b>		
24 in. (608 mm)	Triple open-center semi-grousers	6136 sq. in. (39 577 cm <sup>2</sup> )	8.0 psi (55.2 kPa) (0.56 kg/cm <sup>2</sup> )
24 in. (608 mm) (optional)	Single-bar open-center	6136 sq. in. (39 577 cm <sup>2</sup> )	8.0 psi (55.2 kPa) (0.56 kg/cm <sup>2</sup> )
30 in. (762 mm) (optional)	Triple open-center semi-grousers	7670 sq. in. (49 472 cm <sup>2</sup> )	6.4 psi (44.1 kPa) (0.45 kg/cm <sup>2</sup> )

Track adjustment ..... Hydraulic

**Cab:**

Steel, with urethane soundproofing on ceiling and walls and cushioned neoprene floor mat. Safety glass on all sides and top. Front and rear windows open. Front window is removable.

**Seat:**

Fully adjustable, foam rubber cushioned seat.

**Controls:**

Two levers for boom, crowd, tilt, and swing. Two levers control forward and rearward movement of right and left tracks. Two pedals control shear and clamps. Toggle switch controls tree accumulator.

**Servicing and Vandal Protection:**

Swingaway service doors expose built-in platforms for easy access to engine and hydraulic systems. Crank-operated bolts secure service doors. Cab and access covers to fuel tank, radiator, and air filters lock with ignition key.

**Operating Information:**

Width .....	9 ft. 5-1/2 in. (2.88 m)
Swing speed .....	7 rpm
Gradability .....	70 percent
Travel (2-speed) .....	0 to 0.9 mph (1.45 km/h) 0 to 1.7 mph (2.74 km/h)

**Rome Shear**

Maximum cutting radius (from center of swing) .....	27 ft. 6 in. (8.38 m)
Minimum cutting radius (from center of swing) .....	12 ft. (3.66 m)
Total cutting area .....	1923 sq. ft. (178.6 m <sup>2</sup> )
Lift at 25 ft. (7.62 m) .....	3000 lb. (1 361 kg)
Maximum tree butt diameter .....	20 in. (51 cm)
Base width .....	41 in. (1.04 m)
Top grab opening .....	48 in. (1.22 m)
Blade thickness .....	0.75 in. (19 mm)
Weight .....	4500 lb. (2 041 kg)

**John Deere Shear:**

Maximum tree radius (from center of swing) .....	27.6 ft. (8.4 m)
Minimum cutting radius (from center of swing) .....	13.9 ft. (4.25 m)
Total cutting area .....	625 sq. ft. (58.1 m <sup>2</sup> )
Lift at 25 ft. ....	3300 lb. (1 485 kg)
Maximum tree butt diameter .....	18 in. (46 cm)
Top grab opening .....	19 in. (48 cm)
Blade thickness .....	0.625 in. (16 mm)
Weight .....	3400 lb. (1 530 kg)

**Capacities:**

	<b>U.S.</b>	<b>Imp.</b>	<b>Liters</b>
Fuel tank .....	60 gal.	50.0 gal.	227.1
Cooling system .....	11.25 gal.	9.4 gal.	42.6
Engine lubrication .....	18 qt.	15.0	17.0
Engine lubrication, including filter .....	20 qt.	16.7 qt.	18.9
Hydraulic system .....	80 gal.	66.7 gal.	302.8
Planetary propel drive .....	10 qt.	8.3 qt.	9.4
Swing drive .....	8 qt.	6.7 qt.	7.5

**Additional Standard Equipment:**

- Electric hour meter
- Alternator charge indicator light
- Hydraulic oil filter pressure warning light
- Engine coolant temperature gauge
- Fuel gauge
- Hydraulic oil temperature gauge
- Engine oil pressure gauge
- Key switch
- Cold weather starting aid
- Horn
- Deluxe seat
- Positive-position hand throttle
- Counterweight 4200 lb. (1 906 kg) each
- Cab with heater and soundproofing

**Operating weight w/boom and Rome shear**

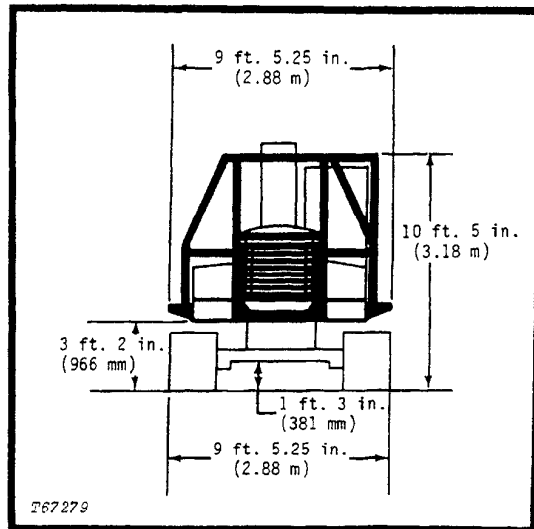
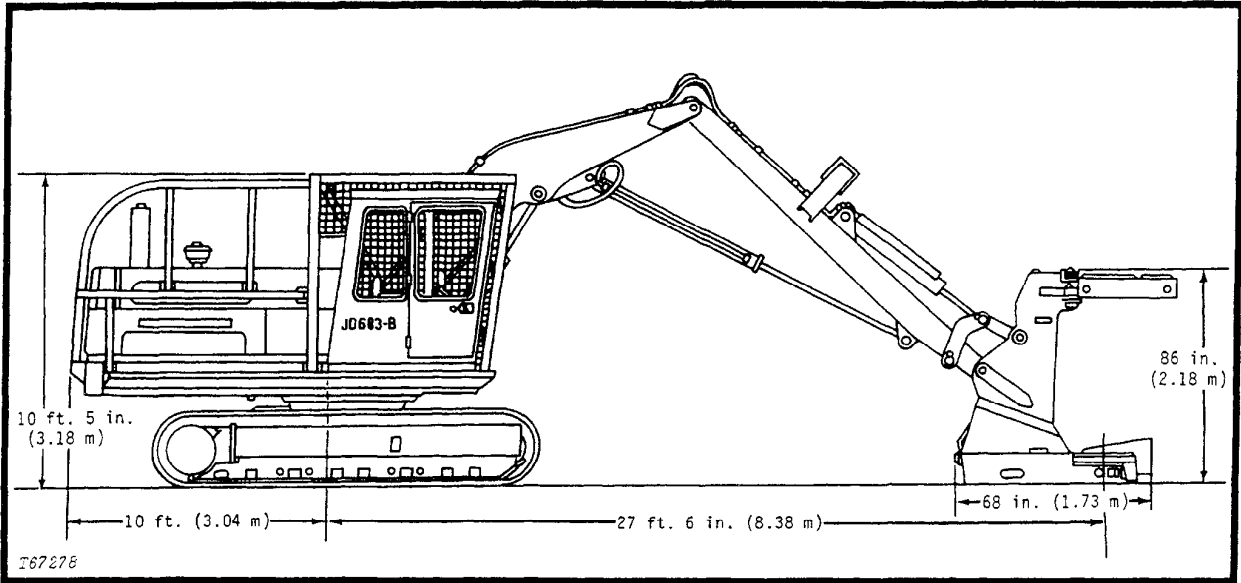
49,000 lb. (22 226 kg)

**Special Equipment:**

- 2000 lb. (907 kg) counterweight
- 24 in. (609 mm) single-bar open-center grouser
- 30 in. (762 mm) triple open-center semigrousers
- Air conditioner-heater
- Defroster fan
- Engine coolant heater



### JD693-B FELLER-BUNCHER OPERATING DIMENSIONS



Please click here and go  
back to our website.

**BUY NOW**

**Then Instant Download the  
Complete Manual.**

**Thank you very much!**